

REMARKS

Claims 1 to 18 are now pending and being considered.

It is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

Applicants thank the Examiner for accepting the Drawings, for acknowledging and considering the previously filed IDS and 1449 papers, and for acknowledging the priority claim and receipt of the priority documents.

With respect to page nine (9) of the Office Action, Applicants thank the Examiner for allowing claims 9 and 18, and for indicating that claims 6, 7, 8, 15, 16 and 17 contain allowable subject matter and would be allowed if rewritten to include the features of their respective base claims. As to the objections to claims, 6, 7, 8, 15, 16 and 17, the objections are traversed since, as explained below, the base claims are allowable. It is therefore respectfully requested that the objections be withdrawn.

With respect to paragraph one (1) of the Office Action, claims 1, 4, 5, and 10 to 14 were rejected under 35 U.S.C. § 102(b) as anticipated by "Utsumi", U.S. Patent No. 4,644,536.

As regards the anticipation rejections of the claims, to reject a claim under 35 U.S.C. § 102, the Office must demonstrate that each and every claim feature is identically described or contained in a single prior art reference. (*See Scripps Clinic & Research Foundation v. Genentech, Inc.*, 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991)). Still further, not only must each of the claim features be identically described, an anticipatory reference must also enable a person having ordinary skill in the art to practice the claimed subject matter, as discussed herein. (*See Akzo, N.V. v. U.S.I.T.C.*, 1 U.S.P.Q.2d 1241, 1245 (Fed. Cir. 1986)).

As further regards the anticipation rejections, to the extent that the Office Action may be relying on the inherency doctrine, it is respectfully submitted that to rely on inherency, the Examiner must provide a "basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics *necessarily* flows from the teachings of the applied art." (*See* M.P.E.P. § 2112; emphasis in original; and *see Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Int'f. 1990)). Thus, the M.P.E.P. and the case law make clear that simply because a certain result or characteristic may occur in the prior art does not establish the inherency of that result or characteristic. Accordingly, it is respectfully submitted that any anticipation rejection premised on the inherency doctrine must fail absent the foregoing conditions.

The "Utsumi" reference refers to a method of multiplexing digital signals, including the steps of: multiplexing serial digital signals of a plurality of channels which have a given transmission rate and each of which has frame synchronizing signals to a single serial signal, converting signals excluding the frame synchronizing signals of one selected channel to a format which allows inverse-conversion and which does not allow detection of the frame synchronizing signals, and using the frame synchronizing signals of said one selected channel as frame synchronizing signals of the single serial signal.

In contrast, claim 1 is to a multiplexing and transmission apparatus which receives low-speed frame signals from a plurality of channels in parallel and outputs a high-speed serial signal, which includes: a control pulses generating circuit which generates control pulses each of which corresponds to one of said channels, wherein phases of said control pulses are different for each channel; channel-frame generating circuits, connected to said control pulses generating circuit, each of which receives said low-speed frame signal and outputs said low-speed frame signal in synchronization with said control pulse; and a multiplexing circuit, connected to said channel-frame generating circuits, which multiplexes said low-speed frame signals into said high-speed serial signal and outputs said high-speed serial signal.

Also, for example, claim 2 (claim 2 was not rejected as anticipated, but was rejected as obvious based on the primary "Utsumi" reference, and its features are found in other of the rejected claims) is to a multiplexing and transmission apparatus which receives a high-speed serial signal, demultiplexes said high-speed serial signal into low-speed frame signals and outputs said low-speed frame signals to a plurality of channels in parallel, and includes: a demultiplexer which demultiplexes said high-speed serial signal into said low-speed frame signals; channel-frame synchronization circuits, connected to said demultiplexer, each of which receives said low-speed frame signal, generates a frame pulse corresponding to said low-speed frame signal, and outputs said low-speed frame signal; a switching circuit, connected to said channel-frame synchronization circuits, which receives said low-speed frame signals and sends each of said low-speed frame signals to an appropriate port of said channel; and a switch controller circuit which controls said switching circuit according to said frame pulses output from said channel-frame synchronization circuits.

In the system of the presently claimed subject matter, in the transmitting side, each channel-frame generating circuit outputs the low-speed frame signal in synchronization with the control pulse corresponding to a channel of the low-speed frame signal, then, the

multiplexing circuit multiplexes low-speed frame signals into the high-speed serial signal and outputs the high-speed serial signal, as provided for in the context of claim 1. That is, the phases of the low-speed frame signals are intentionally shifted with each other according to corresponding channels. (See page 12, lines 15-28, and page 13, lines 33-37 in the specification and Fig. 6A).

On the receiving side, as provided for in the context of claim 2, each channel-frame synchronization circuit receives a low-speed frame signal, generates a frame pulse corresponding to the low-speed frame signal, and the switching circuit sends each low-speed frame signal to an appropriate port of corresponding channel, wherein the switch controller circuit controls the switching circuit according to the frame pulse.

That is, as described in page 13, lines 10-32 of the present application, a corresponding channel of a demultiplexed low-speed frame signal is identified based on the frame pulse corresponding to the low-speed frame signal, wherein the timing of the frame pulse is different from other frame pulses according to the phase shifting of the low-speed frame signal in the transmitting side. (See Specification, page 13, line 33 - page 14, line 8 and Fig. 6B).

According to the presently claimed subject matter, since conventional frame synchronization processing is unnecessary, the problems described at pages 2 - 4 of the present application can be solved, for example.

The "Utsumi" reference does not identically describe (or even suggest) any of the features of the claims 1 and 2 (or of the other independent claims 3, 10, 11, and 12, which include features like those of claims 1 and/or 2).

The Office Action equates "clock pulse" in The "Utsumi" reference with "control pulse" in the claims, and equates "1/9 frequency divider" in The "Utsumi" reference with "channel-frame generating circuit" in the claims. However, the "1/9 frequency divider" simply divides a clock signal and outputs a frequency-divided clock signal -- *but it does not output any frame signal*, as provided for in the context of the claimed subject matter of the rejected claims. Also, in The "Utsumi" reference in Figure 2, it is apparent that frame signals are output from the serial-parallel converters 6 and 7 and from the Multiplexer 8. Thus, the "Utsumi" reference does not identically describe (or even suggest) the claimed subject matter of claims 1 and 2, or of the other.

As to claim 2, for example, the Office Action equates "the inverse converter, the frame synchronizer and the frequency divider" in The "Utsumi" reference with the "channel-

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frame synchronization circuit” of the claims. The Office Action apparently equates “2fHz clock” with claimed “low-speed frame signal”. It is respectfully submitted that this comparison is wrong since “2fHz clock” is different from the “low-speed frame signal” of the claims. In particular, in Figure 5 in The “Utsumi” reference, a frame signal is input from 24. The Office Action does not point out which part in The “Utsumi” reference corresponds to the claimed “frame pulse”. Thus, the “Utsumi” reference does not identically describe (or even suggest) the claimed subject matter of the rejected claims.

Since The “Utsumi” reference does not identically describe (or even suggest) the above-discussed features of the present claims, all of the rejected independent claims are allowable, as are their respective dependent claims.

With respect to page five (5) of the Office Action, claims 2 and 3 were rejected under 35 U.S.C. § 103(a) as unpatentable over the Utsumi reference in view of U.S. Patent No. 4,744,082 (“Fujimura”).

In rejecting a claim under 35 U.S.C. § 103(a), the Examiner bears the initial burden of presenting a prima facie case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish prima facie obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. In re Vaeck, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). Second, there must be a reasonable expectation of success. In re Merck & Co., Inc., 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art reference(s) must teach or suggest all of the claim features. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

As to claim 2, it is allowable for essentially the same reasons as explained above as to the primary “Utsumi” reference, since the secondary “Fujimura” reference does not cure the critical deficiencies of the primary Utsumi reference, as explained above. This is because any review of the secondary “Fujimura” reference makes clear that it simply does not in any way disclose or suggest the claim 2 features, as explained above.

As to claim 3, it includes features like those of claims 1 and/or 2, and is therefore allowable for essentially the same reasons as claims 1 and 2, as explained above as to the primary “Utsumi” reference, since the secondary “Fujimura” reference does not cure the critical deficiencies of the primary Utsumi reference, as explained above. This is because any

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review of the secondary "Fujimura" reference makes clear that it simply does not in any way disclose or suggest the claim 1 or claim 2 features, as explained above.

Accordingly, claims 2 and 3 are allowable.

It is therefore respectfully submitted that claims 1 to 8 and 10 to 17 are allowable – like allowed claims 9 and 18.

Conclusion

It is therefore respectfully submitted that all of claims 1 to 8 and 10 to 17 are allowable -- like allowed claims 9 and 18. It is therefore respectfully requested that the rejections be withdrawn, since all issues raised have been addressed and obviated. An early and favorable action on the merits is therefore respectfully requested.

Respectfully submitted,

Dated: 12/22/05

By: [Signature]

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